BREYTBART, A.Ya., redaktor; SHORIN, N.A., redaktor; URAZOVA, A.N., tekhnicheskiy redaktor.

[Electronic time measurements. Translation for the English] Lampovye skhemy dlia izmereniia vremeni. Perevod s angliisko-go. Pod red. A.IA.Breitbarta. Moskva, Izd-vo "Sovetskoe radio." Vol. 1. 1951. 287 p. (MLRA 8:2)

1. Massachusetts Institute of Technology. Radiation Laboratory. (Time measurements) (Electronic apparatus and appliances)

KONIYOVA, A. S.; [redacted]; and [redacted]

"Bacteriostatic Substances of Animal Origin," Dok. AN, 47, No. 8, 1945

URAZOVA, A. P.

USSR/Medicine - Antibiotics Jun 51

"Application of Pyramidon for Prolonging the Action of Penicillin," Prof I. G. Rufanov, Act Mem, Acad Med Sci USSR, A. P. Urazova, Yu. Ya. Gritsman, Moscow

"Klin Med" XXIX, No 6, pp 32-37

Subcutaneous administration of penicillin together with pyramidon in doses of 100,000-300,000 units per day is sufficiently effective and replaces repeated injections of penicillin. This procedure is superior to other methods of prolonging the action of penicillin and for that reason has (found wide acceptance) at Moscow medical institutions. 198T53

MAYEVSKIY, M.M.; AVDEYEVA, I.A.; ROMANENKO, Ye.A.; URAZOVA, A.P.; BONDAREVA, A.S.; TIMOFEYEVSKAYA, Ye.A.; MAZAYEVA, V.G.; GOR'KOVA, N.P.; TAYSHINA, N.M.

Aurantin and its effect on experimental tumors. Antibiotiki 4 no.4:43-46 Jl-Ag '59. (MIRA 12:11)

1. Laboratoriya eksperimental'noy bioterapii (zav. - chlen-korrespondent AMN SSSR prof.M.M.Mayevskiy) Institute eksperimental'noy patologii i terapii raka AMN SSSR.
(ANTINEOPLASTIC AGENTS pharmacol)
(ANTIBIOTICS pharmacol)

URAZOVA, A.P.

Studies on the antitumor activity of preparation 4695 with various modes of administration. Antibiotiki 5 no. 5:61-63 S-O '60.
(MIRA 13:10)

1. Laboratoriya eksperimental'noy bioterapii (zav. - chlen-korrespondent AMN SSSR prof. M.M. Mayevskiy) Instituta eksperimental'-noy i klinicheskoy onkologii AMN SSSR.
(ANTIBIOTICS) (CYTOTOXIC DRUGS)

BEKKER, Z.E.; RODIONOVA, Ye.G.; YANGULOVA, I.V.; PETROVA, M.A.; KOROLEVA, V.G.; MAYEVSKIY, M.M.; ROMANENKO, Ye.A.; URAZOVA, A.P.; BONDAREVA, A.S.; MAZAYEVA, V.G.; TIMOSHECHKINA, M.Ye.; MOL'KOV, Yu.N.

Tumor-inhibiting properties of mycelial extracts from some fungi. Antibiotiki 6 no.6:488-492 Je '61. (MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.
(TUMORS) (FUNGI--PHYSIOLOGICAL EFFECT)

MAYEVSKIY, M.M.; ROMANENKO, Ye.A.; URAZOVA, A.P.; MOL'KOV, Yu.N.; TIMOFEYEVSKAYA, Ye.A.; BONDAREVA, A.S.; MAZAYEVA, V.G.; TALYZINA, V.A.; BYAZOVA, O.I.

Effect of the antibiotic olivomycin on transplanted tumors. Antibiotiki 7 no.3:64-67 Mr '62. (MIRA 15:3)

1. Laboratoriya eksperimental'noy bioterapii (zav. - chlen-korrespondent AMN SSSR prof. M.M. Mayevskiy) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR.
(ANTIBIOTICS)
(CYTOTOXIC DRUGS)

TALYZINA, V.A.; TIMOFEYEVSKAYA, Ye.A.; URAZOVA, A.P.; FIRSOVA, G.A.

Use of cell lines from human tumors for the initial selection of antineoplastic antibiotics. Antibiotiki 10 no.8:722-724 Ag '65. (MIRA 18:9)

1. Laboratoriya eksperimental'noy bioterapii opukholey (zav.-chlen-korrespondent AMN SSSR prof. M.M. Mayevskiy) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR, Moskva.

MAYEVSKIY, M.M.; URAZOVA, A.P.; ROMANENKO, Ye.A.; MOL'KOV, Yu.N.; BONDAREVA, A.S.; TIMOFEYEVSKAYA, Ye.A.; VYAZOVA, O.I.; MAZAYEVA, V.G.; TALYZINA, V.A.

Antitumor action of the antibiotic chrysomallin (2703). Antibiotiki 9 no.1:33-34 Ja '64. (MIRA 18:3)

1. Laboratoriya eksperimental'noy bioterapii (zav. - chlen-korrespondent AMN SSSR prof. M.M.Mayevskiy) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR, Moskva.

URAZOVA, M.

Together with financial activists. Fin.SSSR 18 no.1: 59-60 Ja '57. (MLRA 10:2)

1. Zamestitel' zaveduyushchego Zapadno-Kazakhstanskim oblastnym finansovym otdelom.
(West Kazakhstan Province--Agriculture--Taxation)

URAZOVA, M.F., dotsent

Development of lung segments in the human embryogenesis.
Trudy Izhev.gos.med.inst. 21:24-31 '64.
(MIRA 19:1)

1. Kafedra gistologii i embriologii Izhevskogo meditsinskogo instituta (ispolnyayushchiy obyazannosti zav. - dotsent M.F.Urazova) i kafedra fiziologii I Moskovskogo ordena Lenina meditsinskogo instituta (zav. - deystvitel'nyy chlen AMN SSSR prof.P.K.Anokhin).

UMAZOVA, L.F., Cand Med Sci—(diss) "Development of the innervation apparatus of the lungs during human embryogenesis." [illegible], 1958, 16 pp (First Mos Order of Lenin Med Inst im I.M. Sechenov), [illegible] copies (KL, 52-58, 116)

IVANCHIKOVA, E.I.; KOLESNIKOVA, M.T.; KONOBRITSKAYA, Ye.M.; KUDRYASHOVA, M.M.; KUL'BAYEVA, Sh.N.; MEDVEDEVA, S.G., Prinimali uchastiye: ABDULLINA, M.N.; KLIMENKO, K.M.; OVSYANKINA, V.I.; SOKOLOV, M.V.; URAZOVA, M.I.; VOROB'YEVA, G.P., AKHMEDOVA, N.B., otv.red.; NOVOKHATSKIY, I.P., red.; SHEVCHUK, T.I., red.; AYTMUKHAMBETOVA, S.; RODIONINA, Z.P., tekhn.red.

[The Karaganda Economic Administrative Region; bibliography] Karagandinskii ekonomicheskii administrativnyi raion; bibliograficheskii ukazatel' literatury. Alma-Ata, 1959. 458 p. (MIRA 13:2)

1. Akademiya nauk Kazakhskoy SSR. Alma-Ata. TSentral'naya nauchnaya biblioteka.
(Bibliography--Karaganda Economic Region)
(Karaganda Economic Region--Bibliography)

URAZOVA, V.A.

НЕМЕТАЛЛИЧЕСКИЕ ВКЛЮЧЕНИЯ СТАЛИ

С.И.Попель Г.Ф.Коновалов	Очистка жидкой стали от тугоплавких включений
С.Е.Волков А.М.Самарин	Влияние метода раскисления стали в индукционной печи на процесс ее десульфурации.
Д.К.Бутаков Л.М.Мальцев	Влияние водорода на обособление серы в структуре литой стали.
С.Т.Ростовцев Д.И.Туркенич В.Н.Белтамовский К.С.Просвирин	Окисные неметаллические включения в конверторной рельсовой стали.
В.А.Уразова Ю.Т.Лукашевич-Дуванова	Включения в малоуглеродистой стали, содержащей титан.
Ю.Т.Лукашевич-Дуванова О.В.Дымент Е.В.Крупина	Включения в малоуглеродистой стали, содержащей церий и ниобий.
А.И.Холодов	Осаждающее раскисление в процессе электроплавки стали.
С.Г.Воинов П.М.Данилов	Разработка и внедрение новой технологии выплавки шарикоподшипниковой стали.
В.П.Карпов П.Я.Агеев	Возможные пути ускорения раскисления металла.

report submitted for the 5th Physical Chemical Conference on Steel Production, Moscow-- 30 Jun 1959.

SOV/180-59-3-18/43

AUTHORS: Lukashevich-Duvanova, Yu.T. and Urazova, V.A., (Moscow)

TITLE: The Determination of Titanium Oxide Inclusions

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 3, pp 108-112(USSR)

ABSTRACT: Low carbon steels were prepared containing various contents of titanium (table 1). Microscopic, X-ray and petrographic analysis were carried out to investigate the oxide inclusions. It was shown that small amounts of titanium form ilmenite in steels (Fig 1-3) and 0.2 to 0.8% Ti form Ti_2O_3 (Fig 4 and 5). A method of phase analysis was worked out. Results are shown in Table 2. It can be seen from these that ilmenite is present at 0.04% Ti and the amount increases with Ti content up to 0.2%. Ti_2O_3 is present with 0.1% Ti and the amount increases with increasing Ti content. TiO_2 was not detected. When the metal is preliminarily oxidised by silicon and an addition of titanium is made, globular inclusions are seen. These are silicates and analysis shows that Ti_2O_3 is present in the silicates (Table 3). As the Ti content is increased the amount of Ti_2O_3 in the silicates increases. No free titanium

Card 1/2

The Determination of Titanium Oxide Inclusions

oxides were found even with 0.9% titanium present. There are 7 figures, 3 tables and 6 references, 2 of which are English, 1 German and 3 Soviet.

SUBMITTED: January 22, 1959

Card 2/2

67804

18.1110 SOV/180-59-5-21/37

AUTHORS: Lukashevich-Duvanova, Yu.T., and Urazova, V.A. (Moscow)

TITLE: Investigation of the Nature of the Carbide Phase in Steels with Additions of Titanium

PERIODICAL: Izvestiya Akademii nauk SSSR,Otdeleniye tekhnicheskikh nauk,Metallurgiya i toplivo,1959,Nr 5, pp 127-130 (USSR)

ABSTRACT: Although the types of titanium compounds in steel have been considered by several authors (Refs 1-3) and Lukashevich-Duvanova (Ref 4) has indicated that carbo-sulphides may be formed, the conditions for the formation of pure titanium carbide and for the formation of solutions with other titanium compounds are still unknown. In the present investigation steels with 0.07-0.25% C, 0.15-1.80% Ti, 0.01-0.04% S and 0.070-0.093 (when determined) % O_2 (Table 1) were used. 300-g ingots were vacuum melted from reduced or armco iron, carbon and titanium being added as graphite (spectroscopically pure) and Fe-Ti alloy, respectively. Ingots were metallographically examined and dissolved electrolytically. In steels with 0.15-0.90% Ti and 0.08% C the irregular grey, crystalline inclusions (Fig 1) were found to be TiC crystallizing with a great deficiency of carbon

Card 1/3

Investigation of the Nature of the Carbide Phase in Steels with Additions of Titanium

(lattice parameter 4.31 Å). Steels with about 0.2% C and low in titanium contain fine dendritic inclusions (Fig 2a) whose quantity and size increase at higher titanium contents. All heats contained oxide inclusions of titanium (and/or aluminium). The composition of the dendrites is given in Table 2; the dendritic inclusions isolated were titanium carbide corresponding to TiC and containing a little sulphur. The presence of sulphur was confirmed by a special heat with 0.11% S, whose inclusions (Fig 4) contained 21.7% S. It is not known whether the various dendritic inclusions are two-phase or represent a limited-solubility solid solution. Table 3 shows results of a phase analysis, based on the different solubilities of the carbides of titanium and of iron, made to find the relative amounts of these substances. The authors conclude that with increasing titanium content of the metal the quantity of iron-carbide phase falls and that of titanium carbide rises. Iron carbide dissolves a little titanium carbide. The amount of oxide inclusions of titanium present as

Investigation of the Nature of the Carbide Phase in Steels with Additions of Titanium

$Al_2O_3.TiO_2$ remains almost unchanged. They draw attention to the fact that with a large excess of titanium (with respect to carbon) the precipitate contains about 10% iron carbide, while with a titanium content four times that of carbon it consists of 53% iron carbide and only 38% titanium carbide. There are 4 figures, 3 tables and 5 references, of which 3 are Soviet, 1 is English and 1 is German.

SUBMITTED: April 15, 1959

Card 3/3

URAZOVA, V. A., Cand Tech Sci -- (diss) "Multiphase titanium enclosures in steels." Moscow, 1960. 21 pp; (Academy of Sciences USSR, Inst of Metallurgy im A. A. Baykov); 150 copies; price not given; printed on duplicating machine; (KL, 24-60, 133)

69652

S/180/60/000/02/006/028
E071/E135

18.1110

AUTHORS: Lukashevich-Duvanova, Yu.T., and Urazova, V.A. (Moscow)

TITLE: Sulphide Inclusions in Steels Containing Titanium Additions

PERIODICAL: Izvestiya Akademii nauk SSSR,Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960,Nr 2, pp 42-48 (USSR)

ABSTRACT: Despite a comparatively large number of papers dealing with studies of titanium sulphides, it is not known whether these are pure titanium sulphides or mixed with sulphides of other elements and whether they form only sulphide inclusions or isomorphic mixtures with carbides and oxides. For this reason an investigation of titanium sulphides was carried out using specimens from special heats made either from powdered iron, containing about 0.1% of oxygen and traces of manganese, silicon, carbon and sulphur, or from armco iron. Smelting was done in an open furnace and in vacuo. Sulphur was introduced in the form of iron sulphide, its content in all melts being practically the same, about 0.1%. Titanium was introduced in the form of a ferrotitanium alloy (25% Ti), its content in specimens varying from

Card 1/3

S/180/60/000/02/006/028
E071/E135

Sulphide Inclusions in Steels Containing Titanium Additions

0.05 to 0.7%. Some specimens were preliminarily deoxidized with aluminium. In addition specimens from industrially smelted automatic and stainless steels were studied. The chemical composition of the specimens investigated is given in Table 1. Microscopic chemical and X-ray methods were used in the studies. Chemical analyses of sulphide inclusions are given in Tables 2, 3, 4, and 5. The appearance of inclusions is shown in Fig 1. It was found that the nature and composition of titanium sulphide inclusions depend on the content of oxygen and carbon in the metal. It was established that individual titanium sulphide inclusions in low carbon steel are not present. Usually two-phase inclusions of titanium carbosulphides (TiC + Ti_2S_3) or oxysulphides (Ti_2O_3 + Ti_2S_3) are formed. With increasing titanium content in the metal the proportion of titanium carbo- and oxy- sulphides increases and that of ferrous sulphide decreases. The results of the investigation indicated that in order to induce the formation of

Card 2/3

69652

S/180/60/000/02/006/028
E071/E135

Sulphide Inclusions in Steels Containing Titanium Additions

carbosulphide inclusions in steel, titanium should be introduced into the preliminarily deoxidized metal.

There are 1 figure, 5 tables and 7 references, of which 3 are Soviet, 2 English and 2 German.

SUBMITTED: September 22, 1959

Card 3/3

URMANOVA, V.N.

115

PHASE I BOOK EXPLOITATION SOV/5411

Konferentsiya po fiziko-khimicheskim osnovam proizvodstva stali. 5th, Moscow, 1959.

Fiziko-khimicheskiye osnovy proizvodstva stali; trudy konferentsii (Physicochemical Bases of Steel Making; Transactions of the Fifth Conference on the Physicochemical Bases of Steelmaking) Moscow, Metallurgizdat, 1961. 512 p. Errata slip inserted. 3,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova.

Responsible Ed.: A. M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: Ya. D. Rozentsveyg. Tech. Ed.: V. V. Mikhaylova.

Card 1/16

Physicochemical Bases of (Cont.) SOV/5411

PURPOSE: This collection of articles is intended for engineers and technicians of metallurgical and machine-building plants, senior students of schools of higher education, staff members of design bureaus and planning institutes, and scientific research workers.

COVERAGE: The collection contains reports presented at the fifth annual convention devoted to the review of the physicochemical bases of the steelmaking process. These reports deal with problems of the mechanism and kinetics of reactions taking place in the molten metal in steelmaking furnaces. The following are also discussed: problems involved in the production of alloyed steel, the structure of the ingot, the mechanism of solidification, and the converter steelmaking process. The articles contain conclusions drawn from the results of experimental studies, and are accompanied by references of which most are Soviet.

S/180/62/000/006/005/022
E111/E451

AUTHORS: Lukashevich-Duvanova, Yu.T., Urazova, V.A. (Moscow)

TITLE: Nitride inclusions in low-carbon high-chromium steel

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no.6, 1962, 73-80

TEXT: Heats with about 15 to 17% Cr, 0.04 to 0.08% C and 0.1 to 0.2% N and various percentages of manganese (0.48 to 1.05), molybdenum (0.24 to 0.88), vanadium (0.28 to 0.95), niobium (0.12 to 0.75), titanium (0.20 to 1.50), zirconium (0.30 to 1.40) and boron (0.36 to 2.62) were prepared and specimens subjected to various heat treatments. Metallographic and chemical examination (by a method which distinguished between nitrogen dissolved in the metal and nitrogen present as various nitrides) together with X-ray diffraction analysis led to the following conclusions. Additions of aluminium, titanium or zirconium form inclusions of AlN, TiN and complex nitrides of zirconium and iron. Additions of vanadium or niobium to the same steel produce carbonitrides of vanadium or niobium. Addition of boron produces boron carbonitrides which crystallize on iron-boride crystals. Total nitrogen in the steel

Card 1/2

Nitride inclusions ...

rises with increasing titanium, zirconium and aluminium content, titanium and zirconium having the greatest affinity for nitrogen. Increasing aluminium, vanadium, niobium and boron contents produce an increase in the quantity of nitrogen combined as the corresponding nitrides, but dissolved nitrogen falls and the total nitrogen hardly changes. Heating the high-chromium steel containing niobium and vanadium to 1200°C and water quenching results in almost complete transfer into solid solution of the carbonitride-combined nitrogen. Corresponding treatment of the aluminium-containing steel converts most of the dissolved nitrogen into aluminium nitride. Heating of high-chromium steel containing boron reduces the total nitrogen-content. There are 3 figures and 1 table.

SUBMITTED: June 26, 1962

Card 2/2

URAZOVA, V.A. (Moskva); DIMANT, O.V. (Moskva); SUY YUY-TSZYAN' [Sui Yü-chien] (Moskva)

Nonmetallic inclusions in binary nickel alloys with aluminum, manganese and silicon. Izv. AN SSSR. Otd. tekh. nauk. Met. i gor. delo no.4:145-150 Jl-Ag '63. (MIRA 16:10)

ACCESSION NR: AP4040988 S/0279/64/000/003/0148/0153

AUTHORS: Urazova, V. A. (Moscow); Dimant, O. V. (Moscow); Sui, Yu-chien (Moscow)

TITLE: Nonmetallic inclusions in alloys on a nickel base

SOURCE: AN SSSR. Izvestiya. Metallurgiya i gornoye delo, no. 3, 1964, 148-153

TOPIC TAGS: nonmetallic inclusion, nickel alloy, chromium, titanium, EI617 alloy, NOOOO nickel, Kh1 chromium, induction furnace

ABSTRACT: The authors studied the nature of nonmetallic inclusions in alloys of Ni-Ti, Ni-Cr, and EI617 and the effect of remelting in vacuum on the amount of nonmetallic inclusions. The Ni-Ti and Ni-Cr alloys were prepared in an open induction furnace with magnesite lining and were remelted in a vacuum furnace (pressure 1×10^{-3} to 5×10^{-4} mm Hg) using a surface current of 200 amp/cm^2. The metals used for these alloys were electrolytic Ni of brand NOOOO, porous Ti, and metallic Cr of brand Kh-1. For the alloy EI617, factory-manufactored rods 30 mm in diameter were used. These rods were remelted in the vacuum furnace mentioned above. The investigation showed that in the Ni-Ti alloys nonmetallic inclusions occur as spinels of Ni_2-Ti_2O_3 with varying compositions and also as alpha-Ti_2O_3.

Card 1/2

ACCESSION NR: AP4040988

In Ni-Cr alloys, inclusions of $NiO-Cr_2O_3-Al_2O_3$ spinels were observed. The inclusions in the EI617 alloy consisted of carbides and nitrides of Ti and of spinel-like complex substances. The nature of these inclusions did not change after remelting, but their quantity did change. The amount of oxygen-bearing inclusions was almost halved after remelting in vacuum. Orig. art. has: 3 tables and 3 figures.

ASSOCIATION: none

SUBMITTED: 30May63 ENCL: 00

SUB CODE: MM NO REF SOV: 004 OTHER: 000

Card 2/2

URAZOVA, Ye. D., inzh.

Improvements in the refining process. Masl.-zhir prom. 24 no. 6:39-41 '58. (MIRA 11:7)

1. Krasnodarskiy maslozavod No. 2.
(Oil and fats, Edible)

URAZOVA, Z.

Competitions for methods of cleaning grain from impurities difficult to remove. Muk.-elev.prom. 26 no.8:29-30 Ag '60. (MIRA 13:8)

1. Zamestitel' predsedatelya TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva mukomol'noy i krupyanoy promyshlennosti i elevatornogo khozyaystva.
(Grain--Cleaning)

URAZOVA, Z., inzh.

"Grain drying and grain dryers" by A.P. Gerzhoi and V.F. Samochetov. Reviewed by Z. Urazova. Muk.-elev. prom. 26 no.9:32 S '60. (MIRA 13:9)

1. TSentral'noye pravleniye Nauchno-tekhnicheskogo obshchestva mukomol'noy i krupyanoy promyshlennosti i elevatornogo khozyaystva.
(Grain - Drying)
(Gerzhoi, A.P.) (Samochetov, V.F.)

URAZOVA, Z.

Results of a serach for the best grain receiving station, grain elevator, and milling enterprise in introducing technical innovations. Muk.-elev. prom. 26 no. 12:24 D '60. (MIRA 13:12)

1. TSentral'noye pravleniye Nauchno-tekhnicheskogo obshchestva.
(Grain-handling machinery) (Grain-milling machinery)

BAUM, A.; URAZOVA, Z.; NEZLOBIN, M.; AVDUS', P.

On the road of technological progress; materials of a review of the introduction and contests in the development of technical innovations. Muk.-elev. prom. 29 no.4:13-17 Ap '63. (MIRA 16:7)

1. TSentral'nyy institut nauchno-tekhnicheskoy invormatsii Gosudarstvennogo komiteta zagotovok (for Baum). 2. Nauchno-tekhnicheskoye obshchestvo mukomol'noy i krupyanoy promyshlennosti i elevatornogo khozyaystva (for Urazova). 3. Nachal'nik otdela tekhnicheskogo razvitiya mukomol'no-krupyanoy i kombikormovoy promyshlennosti Proizvodstvenno-tekhnicheskogo upravleniya Gosudarstvennogo komiteta zagotovok (for Nezlobin). 4. Direktor TSentral'noy laboratorii Gosudarstvennoy khlebnoy inspektsii (for Avdus').

(Grain-handling machinery)

URAZOVSKIY, C. C. i CHETAYEV, P.[illegible].

19806 URAZOVSKIY, C. C. i CHETAYEV, P.[illegible].

Novyy printsip fazovogo analiza polimorfnykh veshchestv po poverkhnostnomu natyazheniyu. Doklady Akad. nauk SSSR. Novaya seriya, t LXVII, No-1, 1949, s 101-04
4 Geologo-geograficheskiye nauki v tselom. Geologiya. Petrografiya Mineralogiya. Kaistallografiya
SO: LETOPIS ZHURNAL STATEY-Vo., 27, Moskva, 1949

URAZOVSKIY, S. S.

DECEASED
c. '62

1962/
/6

Chemistry

see IIC

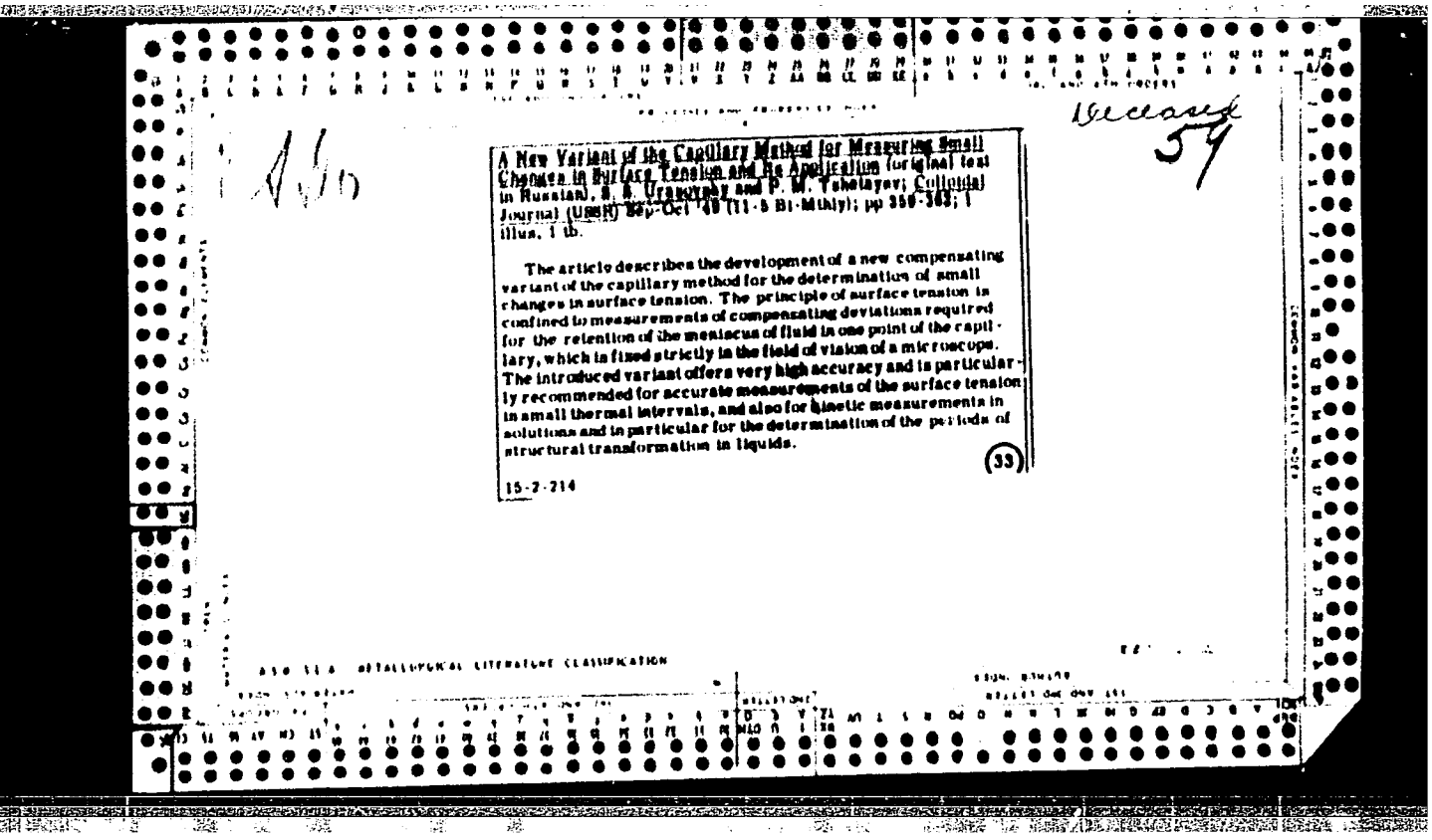
declassified

URAZOVSKIY, S. S.[deceased]; YEZHIK, I. I.

Nature of the dielectric effects reflecting solid-phase transformations in solutions. Izv. vys. uch. zav.; fiz. 3: 114-120 '62. (MIRA 15:10)

1. Khar'kovskiy politekhnicheskiy institut imeni Lenina.

(Solution(Chemistry)) (Dielectric loss)



A New Variant of the Capillary Method for Measuring Small Changes in Surface Tension and Its Application (original text in Russian), B. A. Uranovskiy and P. M. Tokolayev; Colloidal Journal (USSR) Sep-Oct '48 (11-5 Bi-Mthly); pp 359-363; 1 illus, 1 tb.

The article describes the development of a new compensating variant of the capillary method for the determination of small changes in surface tension. The principle of surface tension is confined to measurements of compensating deviations required for the retention of the meniscus of fluid in one point of the capillary, which is fixed strictly in the field of vision of a microscope. The introduced variant offers very high accuracy and is particularly recommended for accurate measurements of the surface tension in small thermal intervals, and also for kinetic measurements in solutions and in particular for the determination of the periods of structural transformation in liquids.

(33)

15-2-214

GA.

AI - Y decrease

New principle of phase analysis of polymorphous substances by surface tension. S. S. Urazovsky and P. M. Chetaev (*C. R. Acad. Sci. U.R.S.S.*, 1940, 27, 101—104).—Surface tension (γ) as a function of temp. (t) is determined for a number of liquid systems. In the neighbourhood of the transition point from a stable to a supercooled liquid there is a sharp break in the relationship in all cases examined, and for a short temp. range, γ is almost independent of t. The phenomenon is discussed and exemplified by the cases of NH_4Ac, PhOH, and a solution of I in C_6H_6.

K. F. A. Linton

URAZOVSKIY, S.S. [deceased]; YEZHIK, I.I.

Anomalies in the temperature dependence of the dielectric properties of liquid nitrobenzene. Izv. vys. ucheb. zav.; fiz. 8 no.2:134-138 '65. (MIRA 18:7)

1. Khar'kovskiy politekhnicheskiy institut imeni Lenina.

L 3664-66 EWT(1)/EPA(s)-2/EWT(m)/EPF(c)/EWP(j)/EWA(c) LIP(c)/RPL WW/JW/GG/RM
ACCESSION NR: AP5011389 UR/0139/65/000/002/0134/0138

AUTHORS: Urazovskiy, S. S. (deceased); Yezhik, I. I.

TITLE: Anomalies in the temperature dependence of the dielectric properties of liquid nitrobenzene

SOURCE: IVUZ. Fizika, no. 2, 1965, 134-138

TOPIC TAGS: nitrobenzene, dielectric property, dielectric loss, loss angle, temperature dependence, molecular configuration

ABSTRACT: The authors investigated the temperature dependence of the dielectric properties of pure nitrobenzene and dilute solutions of nitrobenzene in the microwave and medium-wave bands. The dielectric constant and the tangent of the loss angle of the nitrobenzene were measured by two standard methods, one involving a waveguide with a constant layer of dielectric, and the other with a variable layer. In addition, the authors measured the dependence of the refractive index on the temperature in the inter-

Card 1/3

L 3664-66
ACCESSION NR: AP5011389

3

val 6 -- 45C. The results disclosed the existence of anomalies in the temperature dependence of the dielectric properties at microwave frequencies at 11, 28, and 34C. The corresponding anomalies in the loss angle at medium frequencies were observed also for a 2 per cent solution of nitrobenzene in benzene. Kinks in the temperature dependence of the refractive index of nitrobenzene have been observed at 11 and 34C, and are attributed to the aggregation changes of the molecular configuration of nitrobenzene. The results, reduced by the method of K. S. Cole and R. A. Cole (J. Chem. Phys. v. 9, 341, 1941) show that nitrobenzene has a set of relaxation times (the most probable is of the order of 2.3 x 10^{-11} sec), and that there is a critical wavelength, approximately 4.3 at which the dielectric loss reaches a maximum

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina (Khar'kov Polytechnic Institute)

44,55

Card 2/3

L 3664-66
ACCESSION NR: AP5011389

0

SUBMITTED: 12Jul63 ENCL: 00 SUB CODE: OC,EM

NR REF SOV: 006 OTHER: 002

BVK
Card 3/3

POSTOYEVA, M.Ye.; URAZOVSKIY, S.S. [deceased]; KARPUKHIN, P.P.

Effect of ultraviolet rays on some properties of polyarcylonitrile fibers and films. Khim. volok. no.4:66-68 '65. (MIRA 18:8)

1. Khar'kovskiy politekhnicheskiy institut.

BELOZJOROVA, A.; DANILOV, V.; HANIKAT, E.; KAHU, M.; MAIOROVA, T. [Mayorova, T.]; SOKOLOV, A.; SUROV, A.[Shurov, A.]; TIELND, H.; TUISK, A.; URB, E.; VEERSALU, E.; TIMAKOV, S.; JUHANI, I., red.; EINBERG, K., tekhn. red.

[Achievements of Soviet Estonia in 20 years; statistical survey] Noukogude Eesti saavutusi 20 aasta jooksul; statistiline kogumik. Tallinn, Eesti riiklik kirjastus, 1960. 173 p. (MIRA 15:5)

1. Estonian S.S.R. Statistika Keskvalitsus. 2. Sotrudniki Statisticheskogo upravleniya Soveta Ministrov Estonskoy S.S.R. (for all except Juhani, Einberg). 3. Direktor Statisticheskogo upravleniya Soveta Ministrov Estonskoy S.S.R. (for Timakov).
(Estonia—Economic conditions)

URBACH, Laszlo

Remark about the article "Midget cars" by Odon Ritter.
Jarmu mezo gep 5 no.5/6:184-185 '58.

URBACHOVA, E.

Study material for Klvana's Lidove kroje na Moravskem Slovensku (Folk Costumes in Moravian Slovakia) in the archives of the ethnographic section of the Moravian Museum. p. 195. (Biulleten Astronomicheskikh Institutov Chekhoslovakii. Bulletin of the Astronomical Institutes of Czechoslovakia, Praha. Vol. 41, 1956.)

SO: Monthly List of East European Accession (EEAL) LC, VOL. 6, no. 7, July 1957. Uncl.

Urbacký, Rudolf

2

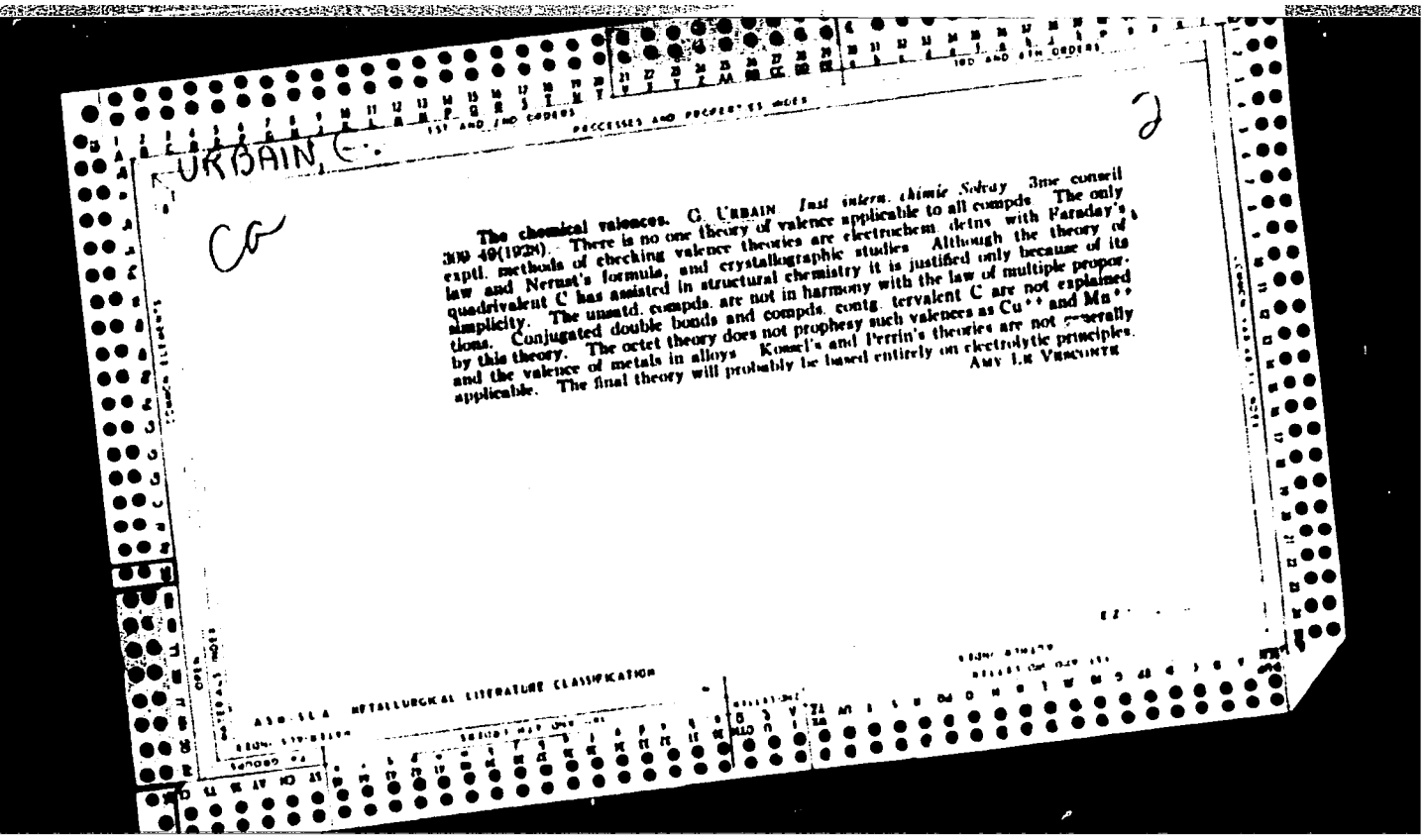
Electrostatic forces in the finishing of furs. Rudolf Vrbacký and Vlasta Vrbacká (Kotov Natl. Corp., Trutnov, Czech.). *Kožišteí* 5, 14–19(1955).—The effect of static electricity in the finishing of furs is described. The most serious difficulties arise in the finishing of rabbit furs. The "feltability" (I) of these furs (a defect attributed formerly to the natural condition of skins) is the result. The origin and prevention of electrostatic potential and the influence of relative humidity are described. The app. for measuring the electrostatic potential of furs after 10 exptl. frictions (U_{10}) is described. On a raw dried rabbit skin U_{10} is 500 v. on the spine; it rises on the cheek to 1210 and on the sides to 730 v., owing to the higher d. of hairs and to their change in direction. I is higher on these places. The change of U_{10} on the spine after different tannages is detd. After HCHO + $KAl(SO_4)_2$ tannage U_{10} becomes 71, after Cr tannage 78, after a pickle-pseudotannage with 4% H_2SO_4 7, and after HCHO tannage 533. After dyeing U_{10} changes to 507, 445, 458, and 653, resp. The lower U_{10} values after the tannage are due to the presence of salts. U_{10} is lower on sheared rabbit furs. U_{10} increases after mordanting of hair in the order: $K_2Cr_2O_7$, $FeSO_4$, $CuSO_4$, no mordant. Different amts. of Ursols (oxidative dyes) in dyeing are without influence. Dyeing with aniline black lowers U_{10}. A higher grease content is without influence. U_{10} can be lowered on dyed furs by treating them in salt solns. NaCl is most effective. $AlCl_3$ is also effective. Finished furs with no I have U_{10} 360–400 v., with medium I 300–600 v., with a high I 500–1000 v. I is detd. by touch. Static charge after passage of furs through different machinery is also detd.

L. Masner

SZULC, J.; URBAHCZKY, K.

Protective cases made of special materials for the combustion of ceramic products. Epitoanyag 14 no.10:387-392 O '62.

1. Varsoi Uvegipari es Keramiai Kutatointezetben H. Walcerz mernok iranyitasa mellett vegzett munka.



URBAIN, G.

Co

2

The chemical valences. G. URBAIN. *Inst. intern. chimie Solvay*, 3me conseil chim. 49(1928). There is no one theory of valence applicable to all compds. The only exptl. methods of checking valence theories are electrochem. deins with Faraday's law and Nernst's formula, and crystallographic studies. Although the theory of quadrivalent C has assisted in structural chemistry it is justified only because of its simplicity. The unsatd. compds. are not in harmony with the law of multiple propor. tions. Conjugated double bonds and compds. contg. tervalent C are not explained by this theory. The octet theory does not prophesy such valences as Cu^{++} and Mn^{++} and the valence of metals in alloys. Kossel's and Perrin's theories are not generally applicable. The final theory will probably be based entirely on electrolytic principles.
Amy Lu Vancouver

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

URBAKH, F.

RT-906 (New method for studying thermal fields) Novyi metod issledovaniia temperaturnykh polei.
USPEKHI FIZICHESKIKH NAUK, 44(4): 630-633, 1951.

URBAKH, I., insh.; VOSKRESENSKIY, Yu., arkhitektor

Using reinforced concrete in rural housing construction. Zhil. stroi. no.10:14-16 '58. (MIRA 12:6)
(Precast concrete construction) (Farm buildings)

URBAKH I. G.,

PA 170T68

Jul 50

USSR/Medicine - Hygiene and Sanitation
Societies, Medical

"Scientific Session of the Uzbekistan Institute of Sanitation and Hygiene Jointly With the Uzbekistan Scientific Society of Hygienists," Ye. G. Meyerson, L. B. Shryber, I. G. Urbakh

"Gig i San" No 7, pp 54-56

Outlines program of session 22 - 24 Feb 50, at the Institute when reports covering wide range of subjects in the field were presented. Housing standards, water supply, silicosis, industrial hygiene, helminthiasis, food sanitation, and development of various fields over past 25 years were among subjects on which reports were submitted.

PA 170T68

PA 170T68

URBAKH, I.I.

Collecting of a dustlike catalyst. Khim. prom. no.10:785-786 O '63. (MIRA 17:6)

1. Gosudarstvennyy institut po proyektirovaniyu gazoochistnykh sooruzheniy.

URBAKH, V. YU.

URBAKH, V. YU.

"Application of the Theory of Heterophase Fluctuations in the Study of Phase Conversions." Min Higher Education USSR, Moscow Order of Lenin State U imeni M. V. Lomonosov, Physics Division, Moscow, 1955. (Dissertation for the Degree of Candidate in Physical and Mathematical Sciences)

SO: M-955, 16 Feb 56

URBAKH, V.Yu.

USSR/ Physics - Field theory

Card 1/1 Pub. 22 - 17/47

Authors : Urbakh, V. Yu.

Title : Generalized Theory of vector fields

Periodical : Dok. AN SSSR 101/6, 1043 - 1046, Apr. 21, 1955

Abstract : By the application of the geometric method to the theory of a vector field, a generalization of the theory is accomplished by means of the tensor analysis. A curvi-linear non-pythagorean space, and the electromagnetic and meson fields are considered. Some results of the generalization are discussed. Diagram.

Institution : M. V. Lomonsov State University, Moscow

Presented by: Academician N. N. Bogolyubov, December 21, 1954

Urbakh, V. Yu.

USSR/Phase Conversions in Solids. E-5

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9297

Author : Urbakh, V. Yu
Title : Concerning the Character of Phase Transformation in Halogenides of Ammonia.

Orig Pub : Zh. fiz. khimii, 1956, 1956, 30, No 1, 217-219

Abstract : No abstract.

Card : 1/1

URBAKH, V. Yu.

USSR/ Chemistry - Conversion processes

Card 1/1 Pub. 147 - 28/35

Authors : Urbakh, V. Yu.

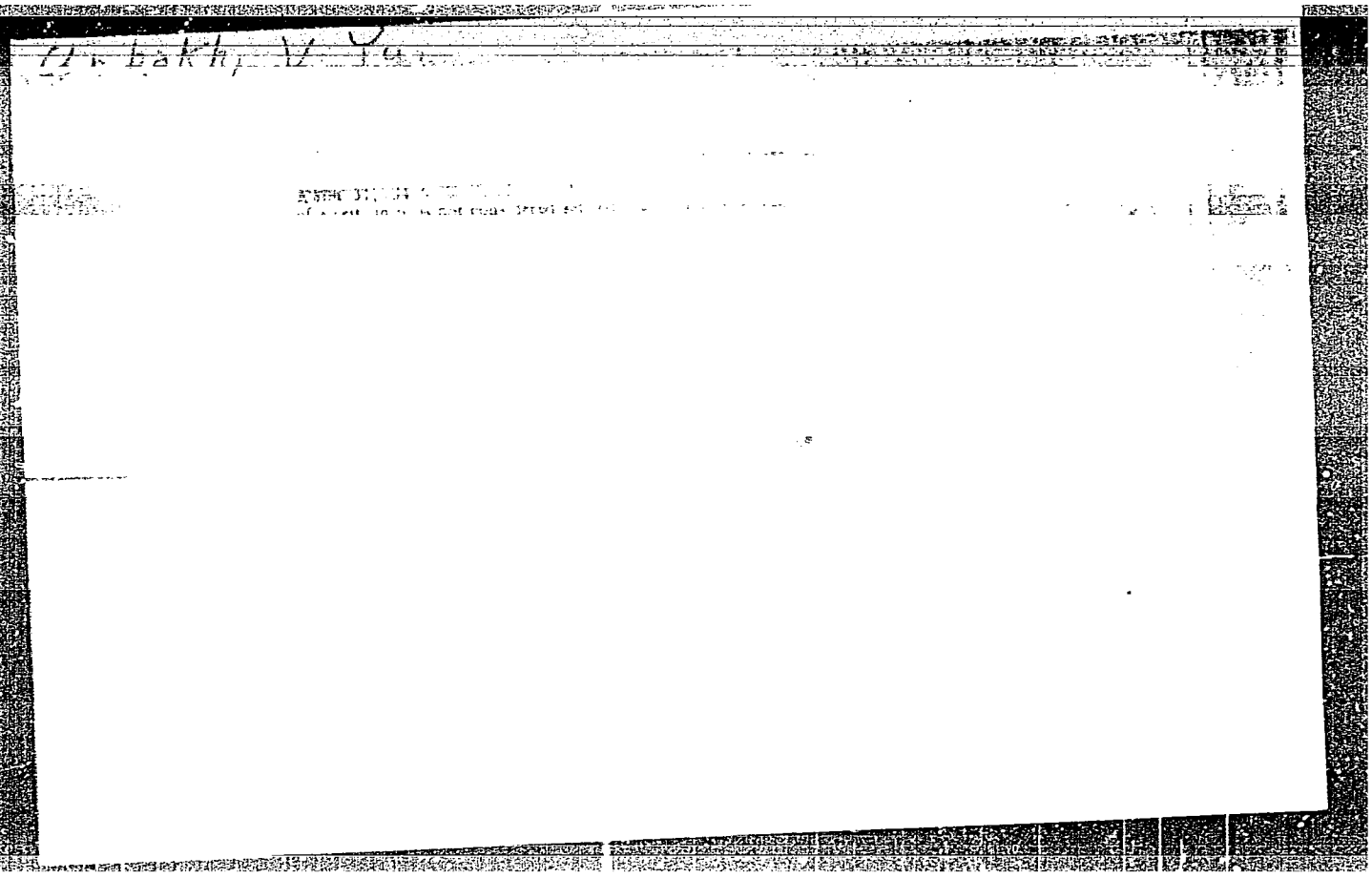
Title : About the nature of phase conversion of ammonium halides

Periodical : Zhur. fiz. khim. 30/1, 217-219, Jan 1956

Abstract : Factors are presented proving that ammonium halide conversions are actually phase conversions of the first order. This was also confirmed by a positive change in the crystalline lattice of the compound. It is pointed out that the Clausius-Clapeyron equation is more suitable for such phase conversions than the Ehrenfest equation, which describes phase conversions of the second order only. Some practical examples on the applicability of the C-C- equation are given. Four references: 2 USSR, 1 USA and 1 Germ. (1931-1939). Tables; graphs.

Institution : Inst. of Fine Chem. Technology im. M. V. Lomonosov, Moscow

Submitted : March 31, 1955



URBAKH, V.Yu.

URBAKH, V.Yu.

The role of impurities in the prefusion phenomena. Zhur.fiz.khim. 31 no.9:2147-2148 S '57. (MIRA 11:1)

1.Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Fusion)

URBAKH, V. Yu.

76-10-33/34

AUTHOR: Urbakh, V.Yu.

TITLE: λ-Transitions and Ehrenfest's Equation (O λ-perekhodakh i uravnenii Ehrenfesta)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 10, pp. 2373-2374 (USSR)

ABSTRACT: The discrepancies in the theory of Ehrenfest which are given by the author and a series of other authors are shown. It is shown that in the phase transitions of second order according to Ehrenfest the λ-transition cannot be phase transition of second order. On the other hand it is pointed out that other authors obtained right results for typical λ-transitions when they used Ehrenfest's equation. It is shown that these results do by no means refute the statement that the λ-transitions are no phase transitions of second order. It is shown that the application of Ehrenfest's equation is also in other interpretation or respect not expedient. There are 1 figure and 12 Slavic references.

Card 1/2

76-10-33/34

λ-Transitions and Ehrenfest's Equation

ASSOCIATION: Institute for Chemical Fine-Technology imeni M.V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova)

SUBMITTED: November 30, 1956

AVAILABLE: Library of Congress

Card 2/2

76-32-5-35/47

AUTHOR: Urbakh, V. Yu.

TITLE: Discussion (Diskussiya) Is There a Limited Mutual Solubility for Gases ? (Sushchestvuyet li ogranichennaya vzaimnaya rastvorimost' gazov ?)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 5, pp.1163-1164 (USSR)

ABSTRACT: The explanations on the reaction of gas mixtures above and below the critical point based on the results obtained from the works by I. R. Krichevskiy, P. Ye. Bol'shakov and D. S. Tsiklis (Refs 1 - 3) are called unfounded in this paper. By means of a diagram for biphase systems the author finds that also in the prolongation of the liquid-vapor curve of equilibrium the substance is in liquid state as: 1) Raman spectra were observed in the prolongation of the curve which are characteristic for liquids. 2) The function curve from the angle of distribution of the intensity of x-rays has a maximum which points at the presence of a "near series". 3) Quite an increase of the entropy takes place in cross sections of the curve from above to below, or from left to

Card 1/2

Discussion. Is There a Limited Mutual Solubility for Gases ?

right, which fact proves to be the separation of heat capacity, with the volume of substance changing analogously. It is assumed that the observed case of limited mutual solubility at high pressures refers to a liquid-gas equilibrium in the binary system. There are 2 figures and 15 references, 14 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut biofiziki, Moskva (Moscow, Institute for Biophysics, AS USSR)

SUBMITTED: August 17, 1957

1. Gases--Solubility 2. Gases--Phase studies
3. Liquids--Properties

SOV/56-35-1-28/59

AUTHOR: Urbakh, V. Yu.

TITLE: Nonlinear Theory of Vector Fields (Nelineynaya teoriya vektornykh poley)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 35, Nr 1, pp. 208-215 (USSR)

ABSTRACT: The author first offers some arguments in support of his opinion that a general linear field theory is necessary independently of an extension of the linear theory and other generalizations, and that it promises good results, especially as nonlinearity is a conclusion that must inevitably be drawn from the fact of the production and annihilation of pairs. In analogy to Einstein's theory of gravitation, the author defines a vector field as a curvature of a certain non-Pythagorean space with $ds = \gamma_i dx^i$ and the geodesies $d^2x^i/ds^2 + \Gamma^i_k dx^k/ds = 0$, the action function $\mathfrak{L} = \text{const}\,\Gamma_{im}\Gamma^{im}$ ($\Gamma^{im} = \text{const}(\partial\mathfrak{L}/\partial\Gamma_{im})$ and the energy-momentum-tensor $T^{ik} = T^i{}_s b^{sk} = \text{const}'(\Gamma_{sn}\Gamma^{in} - \frac{1}{4}b^i_s \Gamma_{mn}\Gamma^{mn})b^{sk}$

Card 1/2

Nonlinear Theory of Vector Fields

This results in nonlinear field equations the linear approximation of which (for weak fields) leads to the usual equations. Although the potential has a singularity, the total energy of the field of a point charge is finite. There are 6 references, 3 of which are Soviet.

ASSOCIATION: Institut biologicheskoy fiziki Akademii nauk SSSR (Institute of Biological Physics, AS USSR)

SUBMITTED: February 17, 1958

24.4500

65716
SOV/139-59-2-15/30

AUTHOR: Urbakh, V.Yu.

TITLE: The Oscillator Problem in Relativistic Quantum Mechanics

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1959, Nr 2, pp 99-102 (USSR)

ABSTRACT: The oscillator problem for a Dirac electron was considered as far back as 1930 by K.Nikolskiy (Ref 1). Nikolskiy used the Dirac energy operator in the form

$$H = c(\alpha_1 p_x + \alpha_2 p_y + \alpha_3 p_z) + \beta m_0 c^2 + U(x) \qquad (1)$$

where $U(x) = m_0 \omega_0^2 x^2 / 2$

The final equation for the problem was then found to be

$$\frac{du}{dq} + u^2 = -\frac{\varepsilon}{4} q^4 + (\varepsilon E + 1)q^2 \pm i\sqrt{\varepsilon}\, q - E(\varepsilon E + 2) \qquad (3)$$

where $q = x\sqrt{\frac{m_0 \omega_0}{\hbar}}$ and $\varepsilon = \omega_0$

Nikolskiy concluded that this equation gives a continuous spectrum of energy eigen values. It is now pointed out that this result is incorrect because the

Card 1/2

The Oscillator Problem in Relativistic Quantum Mechanics

expression for the potential energy of the oscillating electron is incorrect. Instead of the constant m_o one should use the relativistic mass m. If the correct form is used for the potential energy, the problem is reduced to the solution of the differential equation

$$\frac{d^2\varphi}{dx^2} + \frac{2\mu}{h^2}\left[\varepsilon + \frac{U_o}{(1 + \omega_o{}^2x^2)2}\right]\varphi = 0 \qquad (6)$$

where $m_o{}^2c^2 = 2\mu\varepsilon$, $E^2/c^2 = 2\mu U_o$, $\mu > 0$

and the problem is assumed to be stationary (time independent). This equation has a discrete spectrum of eigen values for $\varepsilon < 0$, $U_o > 0$. The splitting of the energy levels is found (Equations 11 to 13) for an oscillating spin 1/2 particle. There is 1 German reference.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova (Moscow Institute of Fine Chemical Technology imeni M.V.Lomonosov)

SUBMITTED: April 2, 1958 (initially); December 1, 1958 (finally)

5(4) SOV/76-33-3-2/41

AUTHOR: Urbakh, V. Yu.

TITLE: On the Problem of the Critical State in Liquid - Gas Transitions (K voprosu o kriticheskom sostoyanii pri perekhodakh zhidkost' - gaz)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 3, pp 515 - 522 (USSR)

ABSTRACT: Several ideas put forward by V. K. Semenchenko (Refs 1-3) on the subject of critical phenomena at the interphase of liquid and gas are explained by means of the theory of heterophase fluctuation according to Ya. I. Frenkel' (Refs 4,5). At a rise of temperature, from a certain temperature onwards, the transition gas - liquid and vice versa will proceed without heat- and volume effect. The substance is considerably dispersed until the liquid meniscus disappears, i.e. typically critical phenomena are to be observed (Fig 1). It is assumed that in the region above the critical point the phase diagram is divided into two parts, i.e.by a certain curve representing a prolongation of the equilibrium line liquid - vapor. On the one hand Frenkel' already pointed out to this

Card 1/3

curve (Ref 5) and on the other hand it may be identified with the curve of the "false" critical points derived by Semenchenko (Ref 3). The critical point divides the curve into two parts differing with respect to the character of the transition of the substance from one phase into the other. The above assumptions are proved to be correct by the results of the spectroscopic and roentgenographic experiments (Refs 9-24). Thus, it is found that it is possible to continue the curve separating the ranges of liquid - and gas phase on the p,T-diagram over the critical point into the infinite. The position of the critical point on the curve depends on the temperature course of the surface tension, i.e. a critical state may be attained at any temperature if surface tension is eliminated. Thus, it is e.g. possible to shift the critical point along the limit curve by means of surface-active substances, which was already experimentally proved (Refs 27,28). An equation derived on the basis of this theory which represents the course of temperature of heat capacity at pressuresin and above the critical region agrees well with experimental results. There are 5 figures, 1 table,

On the Problem of the Critical State in Liquid - Gas Transitions SOV/76-33-3-2/41

and 36 references, 23 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: June 22, 1955

Card 3/3

24 (5)

AUTHOR: Urbakh, V. Yu. SOV/56-37-1-45/64

TITLE: The Radiation Correction to the Electron Mass in Nonlinear Electrodynamics (Radiatsionnaya popravka k masse elektrona v nelineynoy elektrodinamike)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 1, pp 295 - 296 (USSR)

ABSTRACT: The present "Letter to the Editor" is the continuation of an earlier paper (Ref 1), in which it was shown that, like in Einstein's theory of the gravitational field, a nonlinear Lagrangian of the electromagnetic field may be deduced, which, in the case of a statistically spherical-symmetric field, leads to the potential $\varphi = (e/r_0\sqrt{2})\mathrm{sh}(r_0\sqrt{2}/r)$, where $r_0 = e^2/m_0c^2$. This follows for the classical field mass of an electron at rest $m_{0l} \approx \frac{1}{5} m_0$, where m_0 is the experimentally determined rest mass of the electron. For the evaluation of the radiative addition Δm_{0l} to the electron mass (caused by the interaction between the electron at rest and the photon- and electron-positron back-

Card 1/2

The Radiation Correction to the Electron Mass in Nonlinear Electrodynamics

SOV/56-37-1-45/64

ground), the way suggested by the author and basing on the nonlinear Lagrangian of the field is briefly mathematically outlined. The following is obtained for the radiation correction:

$$\Delta m_{cl} = \frac{\alpha}{2\pi} m_0 2\sqrt{2}\left[\int_0^{\eta} \frac{\xi^2 d\xi}{\mathrm{sh}\sqrt{2}\xi} + 2\int_{\eta}^{\infty} \frac{\xi^2 d\xi}{\mathrm{sh}^3\sqrt{2}\xi}\right]; \quad \alpha = \frac{e^2}{hc}; \quad \eta = 0.81.$$

Approximatively it holds that $\Delta m_{cl} \sim (\alpha/2\pi)m_0$. There are 2 Soviet references.

ASSOCIATION: Institut biofiziki Akademii nauk SSSR (Institute of Biophysics of the Academy of Sciences, USSR)

SUBMITTED: February 11, 1959

Card 2/2

URBAKH, V.Yu.

Some notes on the biophysical theory of memory. Biofizika 5 no. 2:438-439 '60. (MIRA 14:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(MEMORY)

16(2), 24(0) SOV/20-130-1-61/69

AUTHOR: Urbakh, V. Yu.

TITLE: Computation of the Spreading in the Statistical Evaluation of Results From a Small Number of Observations

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 214 - 216 (USSR)

ABSTRACT: The spreading (dispersion; spreading of variants around the mean value, or spreading of deviations around zero) is at present expressed by the root mean square deviation (1): $\sigma = \sqrt{\frac{\sum \alpha_i^2}{n-1}}$. At the same time, it is known that in the case of a small number of observations n the distribution always deviates considerably from the normal one. Therefore, the probability that the deviation α of an individual observation result will fall within the range of $\pm \sigma$ differs from the value $P(\alpha \leqslant \sigma) = 0.683$ which is characteristic of a normal distribution. This probability depends on n, and can be determined from St'yudent (Student)'s table of surfaces of probability curves. Table 1 reproduces part (for α/σ from 1.0

Card 1/4

to 1.9) of this table (Ref 1). The probabilities mentioned represent the first line of table 1; they are repeated in table 2, and appear in figure 1 as curve 1. The above-mentioned circumstance leads to the fact that the usual data listed in biological and medical publications on the spreading of experimental results cannot be compared practically. Table 1 shows that the smaller n is, the wider must be the interspace of deviations in order to comprise the given fraction of deviations. A probability of 0.683 must be given if one desires that half the width (designated with σ_n by the author) of the interspace plays the same role for small n-values as σ plays for $n \to \infty$. Then, from table 1 values for $f_n = \sigma_n/\sigma$ can be determined which ensure the same probability for all n. These values can be obtained by interpolation of the table values. The f_n-values computed for various n are given in table 2. Thus, the σ-values computed by formula (1) must be multiplied with corresponding f_n from table 2 in order to obtain comparable data on the spreading which correspond in all

cases to the same probability chosen (here 0.683). The author suggests an approximate analytical expression for f_n which yielded sufficiently close values on a direct check: $f_n^* = \sqrt{\frac{n-1}{n-2}}$ (see Table 2) which together with (1) gives a simple formula $\sigma_n = \sqrt{\frac{\sum \alpha_i^2}{n-2}}$ (2). The values for $P(\alpha \leqslant \sigma_n)$ computed by means of table 1, which correspond to the f_n^*-values mentioned, deviate very little from 0.683; these values are listed in table 2 and figure 1 (Curve 2). As is shown by the diagram, a deviation is practically only noticeable at $n < 5$; but such values of n occur rarely. Apparently, formula (2) may not only be used to compute the spreading for small n-values since St'yudent's distribution holds for all finite n-values. There are 1 figure, 2 tables, and 2 Soviet references.

ASSOCIATION: Institut biologicheskoy fiziki Akademii nauk SSSR (Institute of Biological Physics of the Academy of Sciences, USSR)

Computation of the Spreading in the Statistical Evaluation of Results From a Small Number of Observations

SOV/20-130-1-61/69

PRESENTED: August 13, 1959, by L. S. Shtern, Academician

SUBMITTED: August 8, 1959

Card 4/4

URBAKH, V.Yu.

Decomposition of statistical distributions deviating from the normal into two normal distributions. Report No. 1: Symmetrical distributions. Biofizika 6 no. 1:3-8 '61. (MIRA 14:2)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(MATHEMATICAL STATISTICS)

URBAKH, V.Yu.

Decomposition of statistical distributions deviating form the normal into two normal distributions. Report No.2: Asymmetric distributions. Biofizika 6 no.3:265-271. '61. (MIRA 14:6)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(MATHEMATICAL STATISTICS)

URBAKH, V. Yu.

Systems of statistical characteristics unconnected with moments. Biofizika 6 no.4:385-391 '61. (MIRA 14:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(BIOMETRY)

URBAKH, V.YU.

S/194/62/000/006/109/232
D256/D308

AUTHORS: Borshchev, V.B., Kaminir, L.B., Larionov, M.G., Litinskaya, L.L., Orlovskiy, G.N., Rokhlin, F.Z., Urbakh, V.Yu., and Frank, G.M.

TITLE: Automatic analyzer of biological structures AB -1 (AB-1)

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-5-17 i (Biofizika, 1961, 6, no. 6, 745-747)

TEXT: Large number of measurements are required to obtain reliable information concerning the mean values of biological parameters. A description is given of AB-1 type automatic analyzer of biol. structures capable of producing the mean arithm. value of the area of 1024 micro-objects with an accuracy not less than ± 7 % at a speed of operation of ~100 micro-objects per second. The image of a micro-object is scanned by lines. The mean value of the area is obtained from the known spacing of the scans, the length of the chord of the object and the number of counted objects. The length of the

Card 1/2

chord is converted into a train of standard pulses; their number being proportional to the length. The number of counted objects is obtained by comparing the signals from the scanned line with the delayed signal from the preceding line; if the signal from the preceding line is the only one present, there being no signal from the scanned line, then it is understood that the scanning of the object is completed and a signal is sent to the counter. Nipkow-disk scanning with a simultaneous shifting of the apparatus was employed in the electro-optical converter. The flux of light which depends upon the brightness of the object, falls onto a photomultiplier tube, the output pulses being fed into the counter after amplification and shaping. Results of tests of the analyzer are presented, carried out with measurements of mean radius of erythrocytes. 8 references. [Abstracter's note: Complete translation.]

URBAKH, V.Yu.

Thermodynamics of protein denaturation. Biofizika 6 no.6:748-750 '61. (MIRA 15:1)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(PROTEINS)

S/076/61/035/001/003/022
B004/B060

AUTHOR: Urbakh, V. Yu. (Moscow)

TITLE: Some problems concerning the theory of chemical equilibria

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 1, 1961, 31 - 40

TEXT: The following problems relative to the theory of chemical equilibria are dealt with. A) The useful effect of the chemical reaction. On the assumption of ideal gases, the following relation is written down for the change ΔF of free energy (v = const) $\Delta F = RT\sum \nu_i \ln(c_i/\bar{c}_i) = RT(\sum \nu_i \ln c_i - \ln K_c)$ (5). ν_i is the number of moles formed by reaction, c_i is the molar volume concentration of the components, $\bar{c}_i$ is the concentration of equilibrium, K_c the equilibrium constant. Similarly, one obtains for p = const: $\Delta Z = RT\sum \nu_i \ln(p_i/\bar{p}_i) = RT(\sum \nu_i \ln p_i - \ln K_p)$; ($p_i$ = partial pressure) (9). On the basis of the notion, worked out by Th. de Donde (Ref. 1), of the "degree of development of reaction", termed by the author as "shift of

Card 1/5

Some problems concerning the ...

reaction", the relation $\Delta n_1/\nu_1 = \Delta n_2/\nu_2 = \ldots = \Delta n_k/\nu_k$ (10) is written down, where n_1 = number of moles of substance M_1 entering into reaction. The ratio $\Delta n_k/\nu_k$ is expressed by ξ. It is shown that $dF = \sum \mu_{vi} dn_i = \sum \mu_{vi} \nu_i d\xi$ (11), and $dZ = \sum \mu_{pi} dn_i = \sum \mu_{pi} \nu_i d\xi$ (12). μ_{vi} is the chemical potential for v = const, μ_{pi} for p = const. A comparison of (11) and (12) with (5) and (9) shows that the equations (5) and (9) are not suited for describing the changes of F and Z within a finite system in the whole range of changes of composition. Equations derived by integration of the functions $(\partial F/\partial \xi)_{v,T}$ and $(\partial Z/\partial \xi)_{p,T}$ describe the changes of F and Z in the whole range of variations in the composition of a finite mass of reacting gases:

$$\Delta F = RTv \sum \left\{ c_i \ln(c_i/\bar{c}_i) - (c_i - \bar{c}_i) \right\} \quad (15) \text{ and}$$

$$\Delta Z = \bar{v} \sum (p_i\nu - p\nu_i) \left\{ \left[p_i \ln(p_i/\bar{p}_i) \right] / \left[p_i\nu - p\nu_i \right] - (1/\nu) \ln \left[(p_i\nu - p\nu_i)/(\bar{p}_i\nu - p\nu_i) \right] \right\} \quad (25).$$

Card 2/5

Some problems concerning the ...

B) The electric work of galvanic cells is determined by the change in the free energy: $\Delta A = \Delta F$, and the relation $dF/d\xi = dA/d\xi = (dA/dq)(dq/da)(da/dn)(dn/d\xi)$ is written down. Here, q is the amount of electricity, a is the number of equivalents, n the number of moles. Since $dA/dq = E$ is the emf of the cell, $dq/da = F^*$ is the Faraday number, $da/dn = r$ is the ion valency, and $dn/d\xi = \nu'$ its stoichiometric coefficient, the relation

$$E = (RT/r\nu'F^*)\sum \nu_i \ln(1+\nu_i\xi/\bar{n}_i) \qquad (28)$$

is obtained. The emf does not simply depend on the valency r, but on $r\nu'$, and changes little in the course of reaction. It is assumed to be possible to render the system in the stoichiometric composition $\tilde{n}_i = \nu_i$. The shift of the state of equilibrium to the stoichiometric one ($\xi = \bar{\xi} = 0$) is denoted by $\tilde{\xi}$. In this system, ξ changes only within $\tilde{\xi} - 1 \equiv \xi^-$ and $\tilde{\xi} + 1 \equiv \xi^+$ (Fig. 1). The introduction of the variable $\rho = \xi - \tilde{\xi}$ with the zero value at $\tilde{\xi}$ yields, for the condition $d^3F/d\xi^3 = 0$: $\rho^* = \left(\sqrt{\Sigma\nu_\beta/\Sigma\nu_\alpha} - 1\right) \Big/ \left(\sqrt{\Sigma\nu_\beta/\Sigma\nu_\alpha} + 1\right)$ (31)

Card 3/5

for the point of the greatest stability of the emf. C) A new interpretation of the notion of chemical affinity is given, proceeding from $dZ = dH - TdS$ (or $dF = dU - TdS$). In the case of a chemical reaction, dH is the energetic part of dZ, and the relation $dH = dZ_{energ}$ is written. This expression reproduces the change of enthalpy due to a change of the composition. Entropy is divided a) into a change of entropy due to a change in the composition of the mixture, defined as diffusion portion dS_{diff}; b) change of entropy due to a change in the component contributions to it, configuration portion dS_{conf}. Relation $dZ = dZ_{energ} + dZ_{config} + dZ_{diff}$ (35) is written down. $dZ_{conf} = -TdS_{conf}$; $dZ_{diff} = -TdS_{diff}$. Relation $-RT\ln K_p = \sum \nu_i \mu^o_{pi}$ (37) is obtained, and, similarly, $-RT\ln K_c = \sum \nu_i \mu^o_{vi}$ (38). The fact is stressed that the equations remain valid regardless of the choice of some standard composition. There are 2 figures and 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc.

Some problems concerning the ...

S/076/61/035/001/003/022
B004/B060

ASSOCIATION: Akademiya nauk SSSR. Institut biofiziki (Academy of Sciences USSR. Institute of Biophysics)

SUBMITTED: March 5, 1959

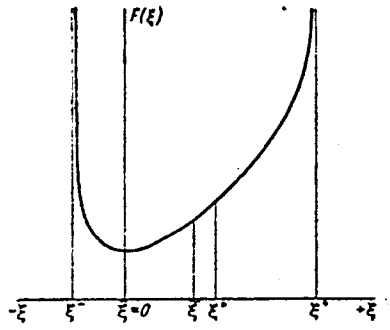


Рис. 1

Card 5/5

URBAKH, V.Yu.

Problem of maximum yield of end products in a homogeneous gaseous reaction. Zhur.fiz.khim. 35 no.6:1379-1380 Je '61.
(MIRA 14:7)

1. Akademiya nauk SSSR, Institut biologicheskoy fiziki.
(Chemical reaction—Conditions and laws)

URBAKH, V.Yu.

Concept of an electronic device for the direct finding of the generalized distribution characteristics of particles according to size. Biofizika 7 no.1:86-92 '62. (MIRA 15:5)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(BIOPHYSICS--EQUIPMENT AND SUPPLIES)
(HEMATOLOGY--EQUIPMENT AND SUPPLIES)

UKSAKH, V. Yu. (Moscow)

"The Statistical Method of Erythrocytometry with the Use of Electronic Instrument."

report presented at the 3rd Conference on the use of Mathematics in Biology, Leningrad University, 23-28 Jan 1961.

(Primeneniye matematicheskikh Metodov v Biologii. II, Leningrad, 1963, pp. 3-11

(Moscow Agricultural Academy imeni Timiryazev)

URBAKH, Viktor Yul'yevich; LIVSHITS, N.N., doktor biol. nauk, otv. red.; URMANTSEV, Yu.A., red. izd-va; GOLUB', S.P., tekhn. red.

[Mathematical statistics for biologists and medical men] Matematicheskaia statistika dlia biologov i medikov. Moskva, Izd-vo Akad. nauk SSSR, 1963. 322 p. (MIRA 16:2)
(Biomathematics)

URBAKH, V. YU (Moscow)

"Calculation of Dispersion in Statistical Processing of the Results of a Small Number of Observations"

Report presented at the 3rd Conference on the use of Mathematics in Biology, Leningrad University, 23-28 Jan. 1961.
(Primeneniye matematicheskikh Metodov v Biologii. II, Leningrad, 1963 pp 5-11)

URBAKH, V.Yu.

Statistical method of erythrocytometry using an electronic device. Prim. mat. metod. v biol. no.2:170-176 '63.
(MIRA 16:11)

ACCESSION NR: AT4016487 S/2582/63/000/010/0099/0109

AUTHOR: Urbakh, V. Yu. (Moscow)

TITLE: Introduction to "Informodynamics" as a branch of information theory

SOURCE: Problemy* kibernetiki, no. 10, 1963, 99-109

TOPIC TAGS: information theory, informodynamics, information loss, noise, entropy, characteristic function, system lability, system obedience

ABSTRACT: Noting the fact that, to date, information theory has been applied primarily to various types of communication problems and communication-connected systems, the author calls attention to other possible, and promising, applications of the theory. It is pointed out, however, that the specific problem or difficulty encountered in "non-communication" applications of information theory have to do with the mathematical apparatus of the theory which, created as it was particularly for the resolution of communication-related problems (viz. quantity of information), is frequently found to be unsuitable for other disciplines. The presence of a well-known analogy between the quantity of information and thermodynamic entropy has led the author to the thought that it may be possible to employ a mathematical apparatus similar to that used in thermodynamics as the necessary general apparatus of

Card 1/3

ACCESSION NR: AT4016487

information theory. It is this trend in information theory that the author has called "informodynamics". The object of study, as the first step in the construction of the theoretical apparatus, is defined. This is the "system" (by analogy, again, with the concept of the "communication system"), under which, however, in this case, is understood an aggregate of symbols characterized by different properties and interrelations. This system is referred to by the author as an "i-system" as opposed to the thermodynamic "f-system" (physical system). In his development of the mathematical apparatus of "informodynamics", the author interprets information loss in a highly literal sense, i.e., as the loss of any information whatsoever regarding the sent signal (the "illegibility" situation in a text or "inaudibility" situation in a telephone conversation). The isochor and adiabatic process are mathematically described, and the concept of ordered external influences is discussed. In a section on the selection of the characteristic function, the author points out that it is most convenient to adopt the quantity of information I as the characteristic function of the i-system, while considering the quantity of noise and the entropy as arguments of this function. The concepts of system "lability" and "obedience" are introduced and defined. Examples illustrating the use of the characteristic function are given, and the dependence of the quantity of information on the number of symbols is shown. An expression is written for the full differential of the quantity of information. Orig. art. has: 41 formulas

Card 2/3

ACCESSION NR: AT4016487

and 2 figures.

ASSOCIATION: none

SUBMITTED: 20Dec61 DATE ACQ: 20Feb64 ENCL: 00

SUB CODE: DP NO REF SOV: 004 OTHER: 001

Card 3/3